

## CLAIMS

What is claimed is:

1. A circuit for discharging a high voltage signal  
5 to a supply voltage line, the circuit comprising:  
a first switch receiving the high voltage signal,  
the first switch having an output;  
a second switch having an input coupled with the  
output of the first switch, the second switch having an  
10 output; and  
a third switch having an input coupled with the  
output of the second switch, the third switch having an  
output coupled with the supply voltage line;  
wherein when the first, second, and third switches  
15 are on, the high voltage signal discharges to the supply  
voltage line.
2. The circuit of claim 1, further comprising:  
a fourth switch clamping said high voltage signal to  
a ground, the fourth switch having an input coupled with  
20 the high voltage signal and an output coupled with said  
ground.
3. The circuit of claim 2, wherein the fourth  
switch has a control coupled with the output of the first  
switch such that when the high voltage signal is  
25 discharging and approaches a voltage level of

approximately said ground, the fourth switch turns on and clamps the high voltage signal to said ground.

4. The circuit of claim 1, further comprising:

a fourth switch for clamping said high voltage  
5 signal to a ground, the fourth switch having an input  
coupled with the high voltage signal and an output; and  
a fifth switch having an input coupled with the  
output of the fourth switch and an output coupled with  
said ground, wherein when the fifth switch is off, the  
10 high voltage signal is not coupled with ground.

5. The circuit of claim 1, further comprising:

control logic for selectively activating the third  
switch.

6. The circuit of claim 1, further comprising:

15 a fourth switch having an input coupled with the  
output of the second switch, the fourth switch having an  
output coupled with the supply voltage line; and

control logic for selectively activating either the  
third switch or the fourth switch to discharge the high  
20 voltage signal.

7. The circuit of claim 1, wherein the high  
voltage supply is a signal in the range of 0 to -5 volts.

8. The circuit of claim 1, wherein the high voltage supply is a signal in the range of approximately 0 to -3.3 volts.

9. The circuit of claim 1, wherein the first  
5 switch is a n-channel transistor.

10. The circuit of claim 1, wherein the second switch is a p-channel transistor.

11. The circuit of claim 1, wherein the third switch is a p-channel transistor.

10 12. The circuit of claim 2, wherein the fourth switch is a n-channel transistor.

13. The circuit of claim 1, wherein the high voltage supply is a signal in the range of 5 to 10 volts.

14. The circuit of claim 1, wherein the first  
15 switch is a p-channel transistor.

15. The circuit of claim 1, wherein the second switch is a n-channel transistor.

16. The circuit of claim 1, wherein the third switch is a n-channel transistor.

20 17. The circuit of claim 2, wherein the fourth switch is a p-channel transistor.

18 20. A method for discharging a high voltage signal, the method comprising:

providing a discharge path from the high voltage signal to a supply line;

discharging the high voltage signal to the supply line through the discharge path; and

- 5        providing a clamping device which senses said discharging, said clamping device activating when the high voltage signal approaches a voltage level of approximately said supply line.

19 21. The method of claim 1, wherein the clamping  
10 device deactivates when the clamping device detects that the high voltage signal is increasing in magnitude.

20 22. The method of claim 1, wherein the supply line is a ground connection.

21 23. The method of claims 1, wherein the supply line  
15 is a positive supply reference.